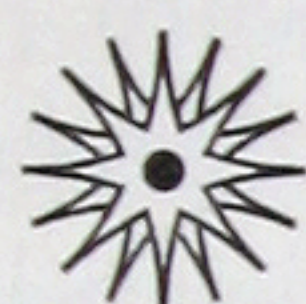
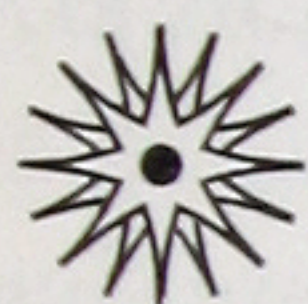
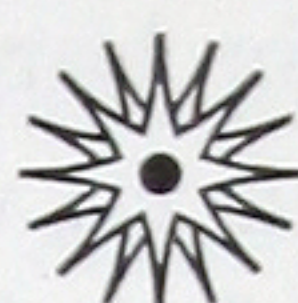
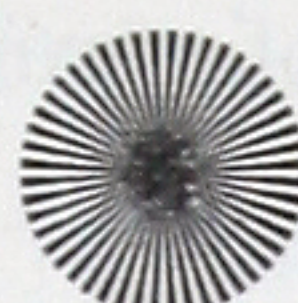
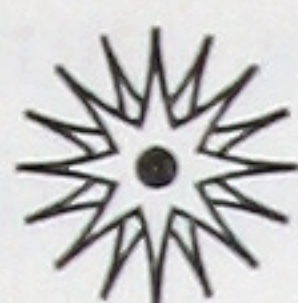


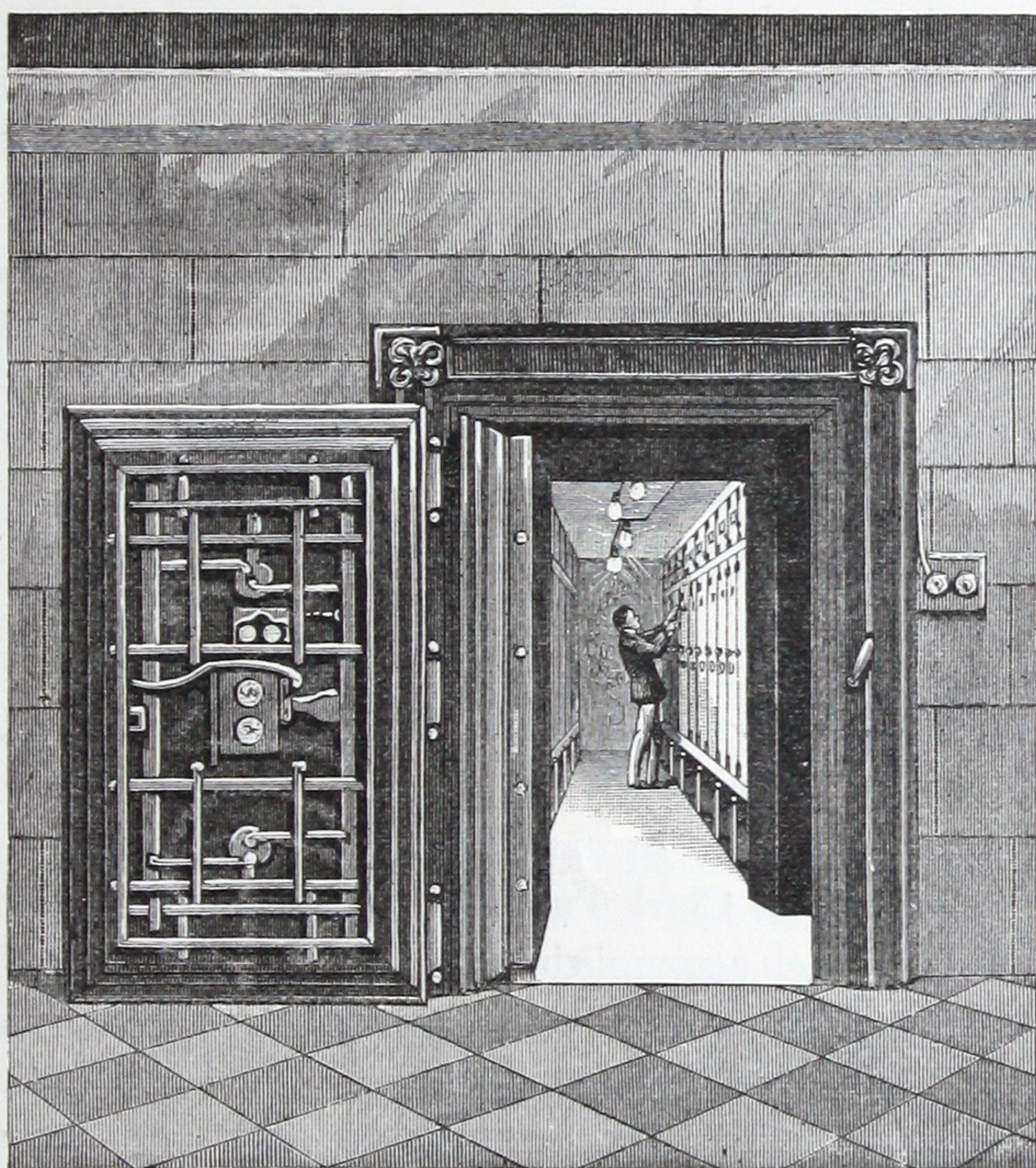
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Vaults.

REMOVAL OF



STUMBLING BLOCKS.



THE removal of a STUMBLING BLOCK marks a positive step in the line of 19th century progress, and inventors have been so busy during the last decade in making existence for mankind not only tolerable but pleasurable as well, that literal stumbling blocks appear to have been practically annihilated, so that it is somewhat in the nature

of a surprise that we learn of a recent invention having for its object so simple a matter as a LEVEL FLOOR or walkway into a bank or safe deposit vault. We smile at the story of our forefathers, when they loaded their horses for mill with the bag of grain slung on one side and a large stone for counter-balance on the other; while it is quite probable, that the shades of these same worthy men may be in possession of a more than equal amount of enjoyment, at witnessing the efforts of our capitalists, as they laboriously climb in and out of their burglar proof strong rooms, FREQUENTLY STUMBLING AND OFTEN FALLING PROSTRATE, with their arms full of securities.

It is indeed singular that this state of affairs should have been allowed to exist in the banking rooms up to the present time, when at all other points, both in office buildings and residences, the one idea of the Architect has been to secure plain LEVEL FLOORS, even to the extent of frequently tabooing the thinnest kind of thresholds.

Who will not recall more than one unpleasant experience in attempting to cross the portal of some magnificent specimen of modern burglar proof vault work, upon the construction of which perhaps, more than a hundred thousand dollars have been spent, and whose massive doors and impregnable walls afford security for millions of capital.

At all other points in the lines of strength and convenience, wonderful progress has been made during the last ten years, but the original STUMBLING BLOCKS, the DOOR SILLS, have always remained a constant source of ANNOYANCE and DANGER, growing worse rather than better, with the ever increasing thickness of the doors, until at present it is necessary to climb two steps to gain access to some of the most stupendous vault work ever built.

It is difficult to conceive why the vault engineers and vault builders of this country have apparently been blind to this GLARING DEFECT in the construction of modern work, some of whom worked at the problem twenty years but such is the case, and it has been left for one in no wise connected with this line of business to point out not only the defect but the remedy.

Captain George S. Clark, who for many years has had in charge the extensive vaults of the Fidelity Trust Company of Philadelphia, which contain probably \$300,000.-000, and have 100,000 visitors annually, long since realized the NECESSITY of a radical REFORM in this direction, and aided by past experience as a practical mechanic, solved the problem by the invention of the Clark Patented FIXED and MOVABLE SILL and LEVEL VAULT FLOOR DEVICES, which accomplish the object of a LEVEL FLOOR in several ways; the two chief methods being known as the DROPPED VESTIBULE and MOVABLE SILL. These methods are precisely what their names indicate, and the slightly increased cost is INSIGNIFICANT when compared to their COMFORT, CONVENIENCE and SAFETY.

In ALL CASES the finished FLOOR LINE OF THE VAULT is directly on a LEVEL with the FINISHED FLOOR LINE OF THE OFFICE or banking room adjoining, the dropped vestibule being of ordinary construction, but dropped until both the outside and inside fixed door sills are below the line of the finished floor. A recess or pit is made in the office floor sufficiently deep to allow of the outside door opening and closing back against the front of the vault, this recess being covered with a foot plate or movable floor, as is

also the space in the vestibule between the outside and inside doors, during such time as the vault may be in use, and forming an ABSOLUTELY LEVEL and UNBROKEN PASSAGEWAY into the vault, (see patent Dec. 24, 1889.)

The Movable Sill Devices, (see patent Nov. 18, 1890), however, are usually preferable, as in this case the office floor is left intact up to the vault, and the outside vault door swings out with just a clearance. The sill to this door is made MOVABLE by a mechanical arrangement of heavy cams and locking bars, and is made to revolve downward below the floor line, with a single motion of one lever; so massive and strong are the arrangements for moving and locking this sill, that a pressure of many hundreds of tons would not dislodge it, and yet it is constructed upon such nice mechanical principles, that it can be operated easily with one hand.

This sill is arranged with REBATED STEPS, PACKED TONGUES AND SHARPLY SERATED GROOVES AROUND ITS ENTIRE EDGES AND CONSTRUCTED IN PRECISELY THE SAME MANNER AS THE DOORS, AND WHEN SECURELY SEATED AND LOCKED, ACTUALLY FORMS A MUCH STRONGER FEATURE OF THE WORK THAN THE DOOR PROPER. After the doors have been opened and the sill revolved downward, a movable floor or foot plate completes the LEVEL THROUGH THE VESTIBULE.

One of the most eminent mechanical and consulting engineers in the United States writes as follows: "To advise my clients regarding this invention, I have made careful examination into the merits of it, both as to its UTILITY and its SAFETY, satisfying myself on one point, and that is, that all other things being equal, safe renters are attracted to the safe deposit companies who pay most attention to their personal comfort.

"I have many times been called upon as an expert in a suit for damages (damage to person), and in one case the cause of complaint was ascribed to a roughness of the floor, one board projecting above the other not more than three-eighths of an inch, but indicated as causing the fall that resulted in the plaintiff losing a limb, crushed in a machine into which he was thrown in falling. A person tripping while carrying a heavy tin box may be injured and may have cause for action of damage if an unusual step, forgotten for the moment, causes him to fall. LOW STEPS AND INCLINED PLANES ARE EACH OBJECTIONABLE.

"The very simple device perfected by Captain Clark cannot be objected to on the score of cost in consideration of the COMFORT and SECURITY effected by its use.

"In all my specifications for vaults, I make the LEVEL ENTRANCE OBLIGATORY, not being willing to give advice, if the person seeking my opinion objects to the use of some method of doing away with a rise in floor at the entrance to the vault, in other words, objects to a level floor entrance. My reason for taking this stand, is that in event of being called on in a damage suit, I would not be able to defend the interest of my client and would have to acknowledge that having advised him of the STATE OF THE ART at the time of his vault erection, he had objected to the MOST IMPROVED CONSTRUCTION, recommended by me.

"The introduction of Captain Clark's INVENTION INVOLVES NO DIFFICULTY IN CONSTRUCTION THAT CANNOT BE MET BY ANY VAULT BUILDER WHO HAS MACHINERY

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"FIT FOR DOING GOOD WORK OF THE KIND. On the other hand, OBJECTION is only
"likely to be RAISED, by those who HAVE NOT THE FACILITIES for such work as is now
"called for.

"NO ELEMENT OF WEAKNESS IS INTRODUCED INTO THE CONSTRUCTION BY THE
"INTRODUCTION OF THE MOVABLE SILL."

The United States Government Commission on Safe and Vault construction; the
Director of the Mint; the Treasurer and Assistant Treasurer of the United States; the
Supervising and ex-Supervising Architects of the Treasury Department COMMEND THESE
DEVICES AND RECOMMEND THEIR USE.

THE FRANKLIN INSTITUTE of Philadelphia, in recognition of the merits of these
Level Passage devices through its Committee on Science and the Arts, awarded to the
inventor the "JOHN SCOTT LEGACY PREMIUM AND MEDAL."

No expense has been spared to perfect these devices, and CIVIL, MECHANICAL and
VAULT ENGINEERS and ARCHITECTS throughout the country, UNANIMOUSLY APPROVE
THEM, and VAULT MANUFACTURERS have advocated their use in a manner which indi-
cates perfect confidence not only in the correctness of their mechanical construction, but
in the probable demand for their UNIVERSAL ADOPTION.

F. S. HOLMES,

Mechanical and Vault Engineer.

ROOM 5.
420 LIBRARY STREET,
Philadelphia, Pa.



(From the *American Architect and Building News*, Boston, Mass., March 4, 1893.)

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